



Empresa Nacional de Residuos Radiactivos, S.A.

Emilio Vargas, 7 - 28043 MADRID

Tels. 34.91566 81 82

e-mail: egan@enresa.es

Ref. 000-CR-RI-2015-0054

21 de Diciembre de 2015

Mr. Kenin Scarce AC, CSC
Royal Commissioner
Nuclear Fuel Cycle Royal Commission
Level 5, 50 Grenfell Street
Adelaide SA 5000
Australia

Subject: Public session on Radioactive Waste disposal – Request for additional information about El Cabril centre

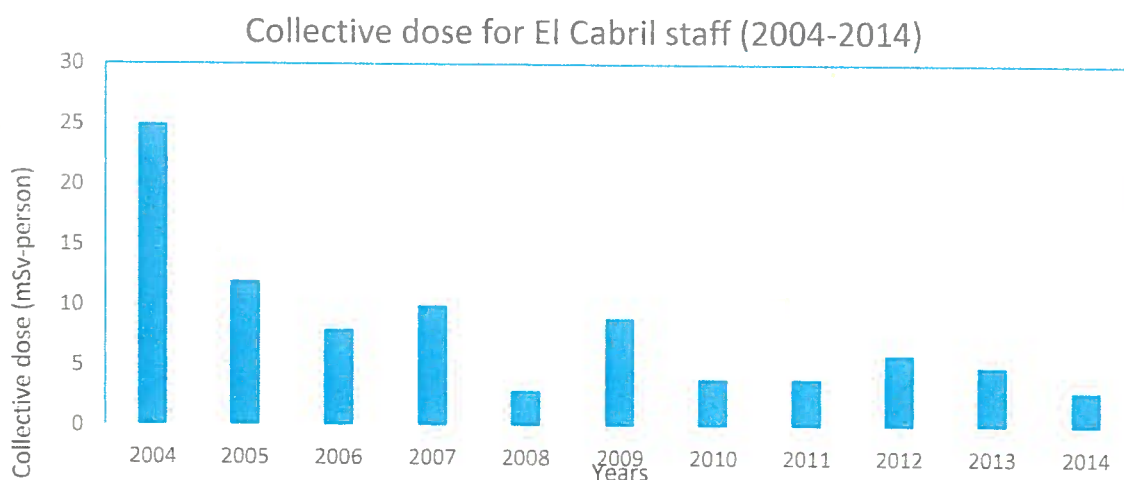
Dear Mr. Scarce,

I am writing to you in response to your estimated letter to sought information about the radiation levels measured at the El Cabril facility.

I regret to let you know that we do not have evidence of any report in English we could provide you on this subject. Notwithstanding, please be informed we have compiled relevant information on the matter of your interest from the annual report to the Parliament issued by the Nuclear Safety Council (2010-2015) These documents are publicly available in Spanish (<https://www.csn.es/centro-de-documentacion? 20 folderId=13529& 20 viewEntries=1& 20 viewFolders=1& 20 struts action=%2Fdocument library%2Fview& 20 action=browseFolder&p p id=20&p p lifecycle=0& 20 entryStart=0& 20 entryEnd=50& 20 folderStart=0& 20 folderEnd=100>)

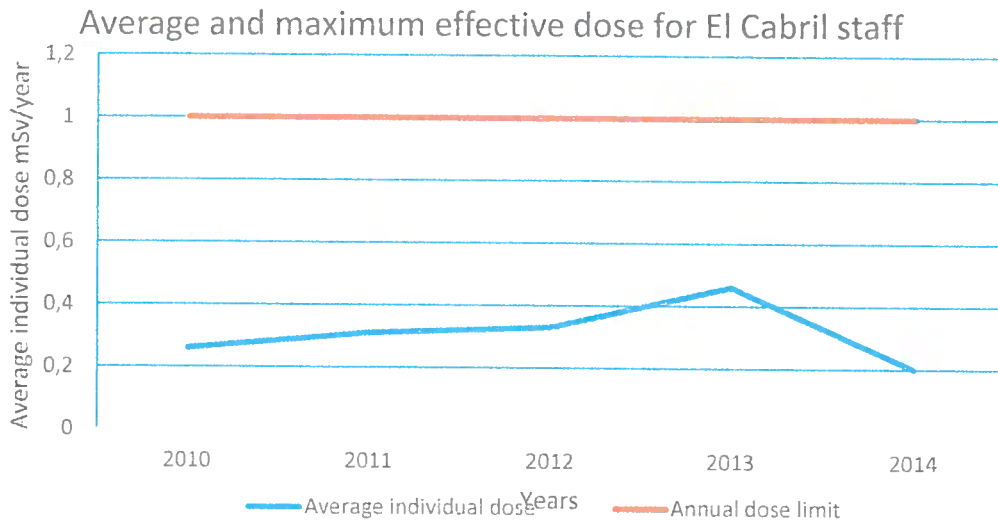
Regarding the staff dosimetry, the number of workers dosimetrically monitored at the El Cabril centre in 2014 was of 213, having a collective dose for about 2.85 mSv/person and an average individual dose for 0.2 mSv/year.

Table 1 shows collective dose evolution along time at this installation



In relation to internal dosimetry, controls were carried out by direct measuring of corporal radioactivity to all workers having risk of exposure to radioactivity without any single case in which detected values were higher than upper limits (1 mSv/year)

Please find below **Table 2** showing information on this subject for the last five years (2010-2014)



As the El Cabril centre is licensed under a condition to null radioactive liquid release, it is not foreseen that in regular normal operation any radioactive liquid should be released to the environment.

The analysis of radioactive gaseous releases not represented any significant radiological risk and the associated effective dose, calculated with conservative criteria for the most exposed individual of the critic group, represents a 3.2% of the authorised limit (0.01 mSv in twelve consecutive months)

Table 3 and 4 present a summary of the measurements obtained in the most significant pathways for population, based in the measures taken on site. The results obtained in 2013 are similar to previous years and show there is no significative radiological impact into the population attributable to the installation

Table 3 Results from PVRA (Radiological environmental monitoring programme) Air and dose rate. El Cabril. Year 2013

Source	Concentration average activity	Fraction > LDL	LDL average
Air			
(Bq/m ³)			
Total Beta	6.94 10 ⁻⁴ (1.28 10 ⁻⁴ – 2.05 10 ⁻³)	364/364	2.93 10 ⁻⁵
Sr-90	< LID	0/21	9.69 10 ⁻⁶
H-3	2.13 10 ⁻³ (1.37 10 ⁻³ – 3.19 10 ⁻³)	21/21	8.64 10 ⁻⁴
C-14	4.64 10 ⁻² (4.15 10 ⁻² – 4.97 10 ⁻²)	21/21	1.73 10 ⁻³
Co-60	< LID	0/21	1.22 10 ⁻⁵
Cs-137	< LID	0/21	1.05 10 ⁻⁵
TLD (mSv/year)	1.15 (6.42 10 ⁻¹ – 1.70)	152/152	---



Table 4 Results from PVRA (Radiological environmental monitoring programme) Soil (Bq/kg dry) El Cabil. Year 2013

Source	Concentration average activity	Fraction > LDL	LDL average
Sr-90	2.45 (1.16 – 3.65)	14/14	5.52 10 ⁻¹
Co-60	< LID	0/14	3.21 10 ⁻¹
Cs-137	7.44 (6.09 10 ⁻¹ – 1.62 10 ¹)	13/14	3.92 10 ⁻¹

We hope this information responds your interest. Please do not hesitate to contact me for any clarification or further interest you may need.

Please allow to avail this opportunity to express our gratitude for your interest in our activities and also your confidence in ENRESA

Yours sincerely,

Emilio García Neri